

Maryland Historical Trust

Maryland Inventory of Historic Properties number: BA-2857

Name: MD7002 LITTLE GUNPOND FAUS

The bridge referenced herein was inventoried by the Maryland State Highway Administration as part of the Historic Bridge Inventory, and SHA provided the Trust with eligibility determinations in February 2001. The Trust accepted the Historic Bridge Inventory on April 3, 2001. The bridge received the following determination of eligibility.

MARYLAND HISTORICAL TRUST	
Eligibility Recommended <u> X </u>	Eligibility Not Recommended <u> </u>
Criteria: <u> A </u> <u> B </u> <u> C </u> <u> D </u> Considerations: <u> A </u> <u> B </u> <u> C </u> <u> D </u> <u> E </u> <u> F </u> <u> G </u> <u>None</u>	
Comments: _____ _____ _____	
Reviewer, OPS: <u>Anne E. Bruder</u>	Date: <u> 3 April 2001 </u>
Reviewer, NR Program: <u>Peter E. Kurtze</u>	Date: <u> 3 April 2001 </u>

MARYLAND INVENTORY OF HISTORIC BRIDGES
HISTORIC BRIDGE INVENTORY
MARYLAND STATE HIGHWAY ADMINISTRATION/
MARYLAND HISTORICAL TRUST

MHT No. BA-2857

SHA Bridge No. 3012 Bridge name MD 7 over Little Gunpowder Falls (Little Gunpowder Bridge)

LOCATION:

Street/Road name and number [facility carried] MD 7 (Philadelphia Road)

City/town Bradshaw Vicinity X

County Baltimore

This bridge projects over: Road Railway Water X Land

Ownership: State X County Municipal Other

HISTORIC STATUS:

Is the bridge located within a designated historic district? Yes No

National Register-listed district National Register-determined-eligible district

Locally-designated district Other

Name of district

BRIDGE TYPE:

Timber Bridge :

Beam Bridge Truss -Covered Trestle Timber-And-Concrete

Stone Arch Bridge

Metal Truss Bridge

Movable Bridge :

Swing

Vertical Lift

Bascule Single Leaf

Retractable

Bascule Multiple Leaf

Pontoon

Metal Girder :

Rolled Girder

Plate Girder

Rolled Girder Concrete Encased

Plate Girder Concrete Encased

Metal Suspension

Metal Arch

Metal Cantilever

Concrete X:

Concrete Arch X

Concrete Slab

Concrete Beam

Rigid Frame

Other Type Name

DESCRIPTION:Setting: Urban _____ Small town _____ Rural X**Describe Setting:**

Bridge 3012 carries MD 7 (Philadelphia Road) over Little Gunpowder Falls in Baltimore County. MD 7 runs northeast to southwest and Little Gunpowder Falls flows northwest to southeast. The portion of the bridge southwest of the Little Gunpowder Falls is located within the Gunpowder Falls State Park.

Describe Superstructure and Substructure:

Bridge 3012 is a 2-span, 2-lane, filled concrete arch bridge. The bridge, built in 1927, is 31.7 meters (104 feet) long and has a clear roadway width of 7.3 meters (24 feet); there are no sidewalks. The out-to-out width is 8.2 meters (27 feet). The superstructure consists of two arches, each spanning 13.7 meters (45 feet), which support a cast-in-place concrete deck and parapets. The substructure consists of four concrete abutments and a solid shaft concrete pier. In addition, there are four concrete wingwalls. The bridge has a sufficiency rating of 79.7.

According to the 1997 inspection report, this structure was in satisfactory condition. The deck, roadway surface and roadway approaches are in good condition, with a recent overlay of asphalt. The arch has longitudinal cracks on the edges and undersides. The edges have spalls, scaling and cracks with efflorescence, while the underside has patches and random cracks with moisture. The arch spandrel surface has light to dark stains and light erosion. The walls have patching with horizontal and map cracks with efflorescence. The pier wall has been patched with gunite but is heavily spalled and cracked on all sides. The wingwalls have also been patched and have cracks with efflorescence and edge scaling along the joints. The wingwalls are covered with vegetation.

Discuss Major Alterations:

According to the 1997 bridge inspection report, there have been no major alterations to Bridge 3012. The parapets were replaced at an unknown date.

HISTORY:WHEN was the bridge built: 1927This date is: Actual X Estimated _____Source of date: Plaque X Design plans _____ County bridge files/inspection form _____Other (specify): State Highway Administration Inspection Report/Bridge Files**WHY was the bridge built?**

The bridge was constructed in response to the need for more efficient transportation network and increased load capacity.

WHO was the designer?

State Roads Commission

WHO was the builder?

State Roads Commission

WHY was the bridge altered?

To replace deteriorated parapets.

Was this bridge built as part of an organized bridge-building campaign?

There is no evidence that the bridge was built as part of an organized bridge building campaign.

SURVEYOR/HISTORIAN ANALYSIS:

This bridge may have National Register significance for its association with:

A - Events _____ B- Person _____
C- Engineering/architectural character X

The bridge is eligible for the National Register of Historic Places under Criterion C, as a significant example of concrete arch construction. The structure has a high degree of integrity and retains such character-defining elements of the type as spandrel walls, arch barrel and rings, concrete abutments, pier, and wingwalls.

Was the bridge constructed in response to significant events in Maryland or local history?

The advent of modern concrete technology fostered a renaissance of arch bridge construction in the United States. Reinforced concrete allowed the arch bridge to be constructed with much more ease than ever before and maintained the load-bearing capabilities of the form. As the structural advantages of reinforced concrete became apparent, the heavy, filled barrel of the arch was lightened into ribs. Spandrel walls were opened, to give a lighter appearance and to decrease dead load. This enabled the concrete arch to become flatter and multi-centered, with longer spans possible. Designers were no longer limited to the semicircular or segmental arch form of the stone arch bridge. The versatility of reinforced concrete permitted development of a variety of economical bridges for use on roads crossing small streams and rivers.

Maryland's roads and bridge improvement programs mirrored economic cycles. The first road improvement of the State Roads Commission was a 7 year program, starting with the Commission's establishment in 1908 and ending in 1915. Due to World War I, the period from 1916-1920 was one of relative inactivity; only roads of first priority were built. Truck traffic resulting from war related factories and military installations generated new, heavy traffic unanticipated by the builders of the early road system. From 1920-1929, numerous highway improvements occurred in response to the increase in Maryland motor vehicles from 103,000 in 1920 to 320,000 in 1929, with emphasis on the secondary system of feeder roads which moved traffic from the primary roads built before World War I. After World War I, Maryland's bridge system also was appraised as too narrow and structurally inadequate for the increasing traffic, with plans for an expanded bridge program to be handled by the Bridge Division, set up in 1920. In 1920 under Chapter 508 of the Acts of 1920 the State issued a bond of \$3,000,000.00 for road construction; the primary purpose of these monies was to meet the state obligations involving the construction of rural post roads. The secondary purpose of these monies was to fund (with an equal sum from the counties) the building of lateral roads.

The number of hard surfaced roads on the state system grew from 2000 in 1920 to 3200 in 1930. By 1930, Maryland's primary system had been inadequate to the huge freight trucks and volume of passenger cars in use, with major improvements occurring in the late 1930's.

As the nation's automotive traffic increased in the early twentieth century, local road networks were consolidated, and state highway departments were formed to supervise the construction and improvement of state roads. With a diverse topographical domain encompassing numerous small and large crossings, Maryland engineers quickly recognized the need for expedient design and construction through the standardization of bridge designs.

The concept and practice of standardization was one of the most important developments in engineering of the twentieth century. In Maryland, as in the rest of the nation, the standardized concrete types became the predominant bridge types built. In the period 1911 to 1920 (the decade in which standardized plans were introduced), beams and slabs constituted 65 percent and arches 35 percent of the extant 29 bridges built in Maryland during this period. In the following decade, 1921-1930, the beam (now the T-beam) and slab increased to 73 percent and the arch had declined to 27 percent of the 129 extant bridges; in the next decade (1931-1940), the beam and slab achieved 82 percent and arches had further declined, constituting only 18 percent of the total of extant bridges built on state-owned roads between 1931 and 1946.

Although beam and slab bridges became the utilitarian choice, it appears that the arch was selected when aesthetic as well as other site conditions were considered. The architectural treatment of extant arch bridges supports this assessment. Many of these bridges were multiple span structures with open spandrels or masonry facing. Another decorative feature of the concrete arch bridge was an open, balustrade-style parapet. Despite the popularity of ornamental arches and the increase in use of beam and slab bridges, examples of simpler, single and multiple span closed concrete arch bridges with solid parapets continued to be constructed throughout the early twentieth century.

The route of the Philadelphia Road (State Route 7) was traveled as early as 1733, when Poor Richard's Almanac noted the general course of the present highway. Under pressure from the federal Bureau of Public Roads in the early 1930s, the State Roads Commission planned the construction the Pulaski Highway from Baltimore to Havre de Grace in lieu of widening the old Philadelphia Road.

When the bridge was built and/or given a major alteration, did it have a significant impact on the growth and development of the area?

There is no evidence that the construction of this bridge had a significant impact on the growth and development of this area.

Is the bridge located in an area which may be eligible for historic designation and would the bridge add to or detract from the historic/visual character of the potential district?

Unknown

Is the bridge a significant example of its type?

The bridge is a good example of the State Roads Commission standard 1920s bridge plan.

Does the bridge retain integrity of important elements described in Context Addendum?

The bridge retains the character-defining elements of its type, as defined by the Statewide Historic Bridge Context, including spandrel walls, arch barrel and rings, concrete pier, abutments, and wingwalls, however some deterioration is evident. The parapets have been replaced, but do not significantly impact the integrity of the bridge.

Is the bridge a significant example of the work of a manufacturer, designer, and/or engineer?

This bridge is a significant example of the work of the State Roads Commission in the 1920s.

Should the bridge be given further study before an evaluation of its significance is made?

No further study of this bridge is required to evaluate its significance.

BIBLIOGRAPHY:

County inspection/bridge files _____ SHA inspection/bridge files X
Other (list): _____

Johnson, Arthur Newhall

1899 The Present Condition of Maryland Highways. In *Report on the Highways of Maryland*. Maryland Geological Survey, The Johns Hopkins University Press, Baltimore.

P.A.C. Spero & Company and Louis Berger & Associates

1995 Historic Highway Bridges in Maryland: 1631-1960: Historic Context Report. Maryland State Highway Administration, Maryland State Department of Transportation, Baltimore, Maryland.

State Roads Commission

1958 A History of Road Building in Maryland. Published by author, Baltimore.

Tyrrell, H. Grattan

1909 *Concrete Bridges and Culverts for Both Railroads and Highways*. The Myron C. Clark Publishing Company, Chicago and New York.

SURVEYOR:

Date bridge recorded December 1997
Name of surveyor Wallace, Montgomery & Associates / P.A.C. Spero & Company
Organization/Address P.A.C. Spero & Co., 40 W. Chesapeake Avenue, Baltimore, MD 21204
Phone number (410) 296-1635 FAX number (410) 296-1670

Maryland Historic Highway Bridges
 Bridge Type CONCRETE ARCH
 MHT# BA-2857
 Map C-13 BALTIMORE NW
 County BALTIMORE
 Bridge # and name 3012; MD 7 OVER
LITTLE GUNPOWDER FALLS





Inventory # 2A-2857

Name 3012-MD7 OVER LITTLE GUNPOWDER FALLS

County/State BALTIMORE COUNTY/MD

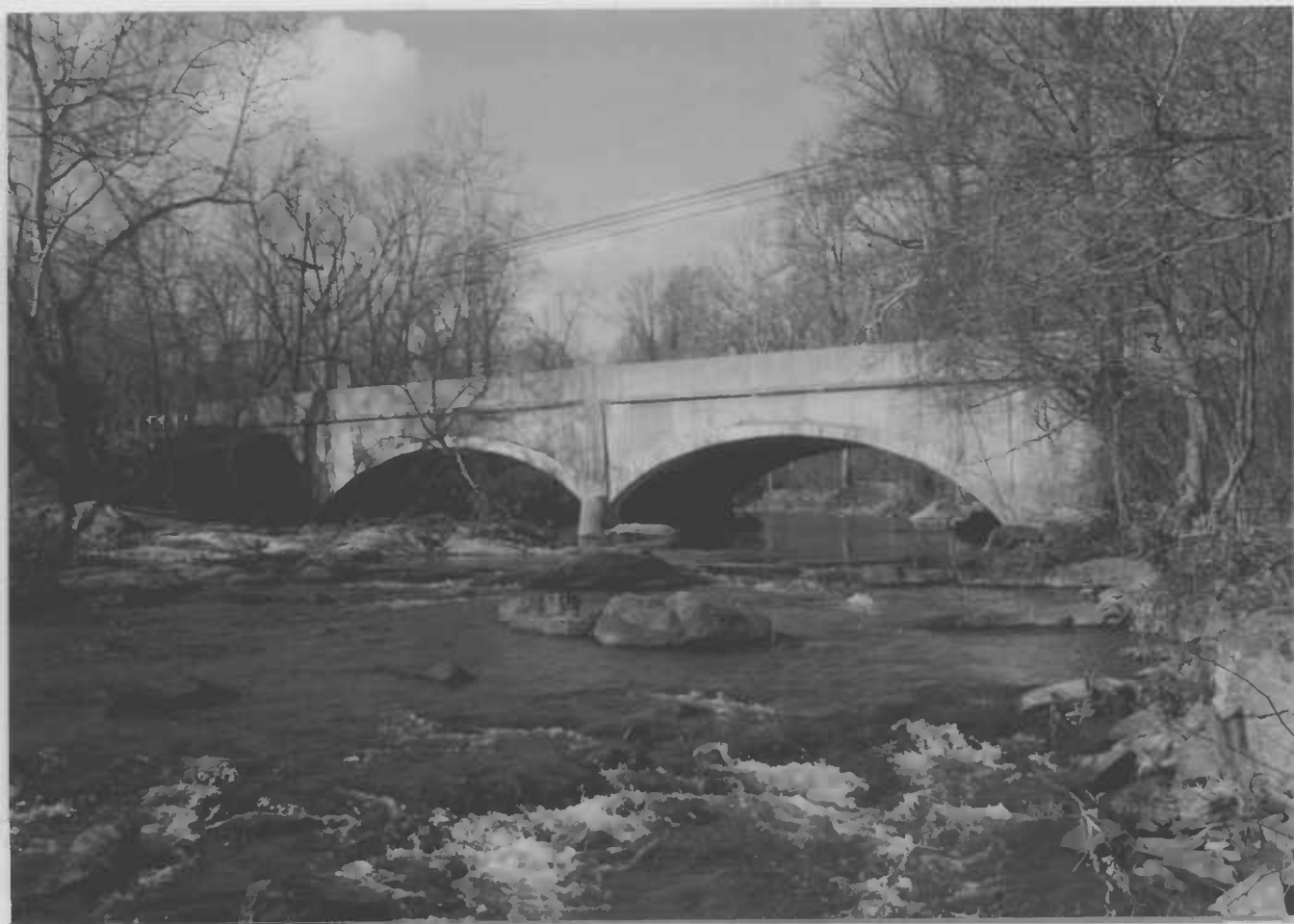
Name of Photographer DAVE DIEHL

Date 1/95

Location of Negative SHA

Description WEST APPROACH LOOKING
EAST

Number 1 of 26 5



Inventory # BA-2857

Name 3012-MD7 OVER LITTLE GUNPOWDER FALLS

County/State BALTIMORE COUNTY/MD

Name of Photographer DAVE DIEHL

Date 1/95

Location of Negative SHA

Description SOUTH ELEVATION LOOKING
NORTHWEST

Number 2 of 5



Inventory # BA-2857

Name 3012-MD7 OVER LITTLE GUNPOWDER FALLS

County/State BALTIMORE COUNTY/MD

Name of Photographer DAVE DIEHL

Date 1/95

Location of Negative SHA

Description NORTH ELEVATION LOOKING
SOUTH WEST

Number ³~~28~~ of ⁵~~30~~

LITTLE CUNPOWDER BRIDGE

BUILT - 1927

STATE ROADS COMMISSION

JOHN H. MAXWELL - CHAIRMAN & CHIEF ENGR.

R. BENNETT BARNALL - W.D. BROWN

L.H. STEWART - SECRETARY

W.C. HOPKINS - BRIDGE ENGINEER.

Inventory # BA-2857

Name 3012-MD7 OVER LITTLE GUNPOWDER FALLS

County/State BALTIMORE COUNTY / MD

Name of Photographer DAVE DIEHL

Date 1/95

Location of Negative SHA

Description PLAQUE ON SOUTH PARAPET

Number 4 ~~29~~ of 5 ~~30~~



Inventory # BA-2857

Name 3012-MD? OVER LITTLE GUNPOWDER FALLS

County/State BALTIMORE COUNTY/MD

Name of Photographer DAVE DIEHL

Date 1/95

Location of Negative SHA

Description EAST APPROACH LOOKING
WEST

Number 5 of 5